THREATS TO GEORGIA'S WATER QUALITY: AN ANALYSIS OF EPD'S PROPOSED CAFO RULES

Justine Thompson

AUTHOR: Attorney, Southern Environmental Law Center, 127 Peachtree Street, Suite 605, Atlanta, Georgia 30303.
REFERENCE: Proceedings of the 1999 Georgia Water Resources Conference, held March 30-31, 1999, at the University of Georgia. Kathryn J. Hatcher, editor, Institute of Ecology, University of Georgia, Athens, Georgia.

Abstract. Experiences in North Carolina as well as many other states in the southeast region have demonstrated that prevailing waste management systems for animal feeding operations – lagoons and sprayfields – are directly contributing to the pollution of our nation's waters. As a result of public concern and increased awareness of this problem, states throughout the southeast have responded by strengthening regulations and enacting legislation designed to protect the environment from the threats posed by animal feeding operations. Georgia appeared to be following the lead of other states when the Environmental Protection Division of the Department of Natural Resources ("EPD") announced its plan to promulgate regulations to address animal feeding operations. Shortly thereafter, EPD convened a Stakeholders Committee comprised of members of the environmental community, the agricultural community, EPA, U.S. Fish and Wildlife Services and academia. At the request of EPD, this Committee developed recommendations for regulations for animal feeding operations which were completed in October 1998. In December 1998, EPD released proposed rules which amend Georgia's Rules for Water Quality Control, Chapter 391-3-6. While EPD's decision to convene a stakeholders committee and promulgate regulations seemed to indicate that it recognized the importance of adequately addressing the problems posed by animal feeding operations, the rules as proposed indicate otherwise. The rules as proposed fail to regulate the vast majority of animal feeding operations in Georgia and do not contain specific requirements such as regular monitoring, annual inspections, and record-keeping that are integral parts of an effective regulatory scheme. Moreover, the rules bear little resemblance to the recommendations submitted by the Stakeholders Committee and, in many respects, provide less regulatory oversight than current standards. Thus, the rules should be amended to reflect the consensus reached by the Stakeholders Committee and should be strengthened to include specific requirements with respect to siting, monitoring, and enforcement.[1]

ENVIRONMENTAL THREATS POSED BY ANIMAL FEEDING OPERATIONS

The threats posed by animal feeding can hardly be disputed. In fact, the Environmental Protection Agency ("EPA"), in its recently released Draft Unified National Strategy for Animal Feeding Operations ("Strategy"), identified that 53 percent of all perennial stream miles are partially or fully impaired and another 8 percent were threatened; 40 percent of all lake acres, and 72 percent of all estuarine waters are impaired; and that agriculture is the most widespread source of pollution to these rivers. Strategy, §2.2. EPA also recognized that manure and wastewater from animal feeding operations:

> have the potential to contribute pollutants such as nutrients (e.g. nitrogen, phosphorus), sediment, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. Excess nutrients in water can result in or contribute to eutrophication, anoxia (i.e. low levels of oxygen), and, in combination with other circumstances, have been associated with outbreaks of microbes such as *Pfiesteria piscicida*. Pathogens, such as *Cryptosporidium*, have been linked to impairments in drinking water supplies and threats to human health[;] . . . nitrogen, in the form of nitrate, can contaminate drinking water supplies drawn from ground water. Nutrients can also cause toxic algal blooms which may be harmful to human health.
>
> Strategy, § 2.2 (emphasis in original).

[1] The rationale, from both a scientific and policy perspective, for regulatory requirements such as siting restrictions, inspections, monitoring and record-keeping (just to name a few) are beyond the scope of this article. Extensive literature exists on this subject some of which is on file with the author.

The manure and wastewater from animal feeding operations reach our nations rivers through lagoon failures. For example, a catastrophic spill experienced in North Carolina released 25 million gallons of liquid hog manure into the New River devastating aquatic life in more than seventeen miles of the river. In addition to the catastrophic threats, our rivers are also threatened by the daily assault from overtopping, adverse weather conditions, inundation, lagoon seepage and run-off from sprayfields. Seepage from lagoons, which threatens neighboring drinking water supplies, is well-documented.[2] Moreover, investi-gations in North Carolina have found contamination plumes over 1,000 feet from the edge of sprayfields. North Carolina officials have also detected high levels of nitrates in drinking water wells with investigations strongly suggesting contamination by neighboring hog and poultry farms.[3]

These threats to water quality can also be traced to poultry facilities which utilize a dry litter system. These operations do not typically utilize lagoon technology thus alleviating the threat of catastrophic spills as a result of lagoon failures. However, poultry manure is frequently stored uncovered – leading to runoff and leaching from the storage area – and applied to croplands already saturated with excess nutrients. [4] Improper waste management practices have resulted in contamination of water supplies in several states. For instance, on Virginia's Eastern Shore, animal waste accounts for approximately one-third of the nitrogen and two-fifths of the phosphorous entering the Chesapeake Bay from the area – where poultry is by far the most prevalent animal grown in the area.[5] Despite these threats, poultry waste is not typically regulated.

REGULATING CAFO'S IN GEORGIA

Federal Oversight

States regulate animal feeding operations pursuant to Clean Water Act (formerly referred to as the Federal Water Pollution Control Act). 33 U.S.C. § 1251 et seq. Federal regulations promulgated under the Clean Water Act define an animal feeding operation as "a lot or facility . . . where . . . [a]nimals . . . have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and [c]rops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility." 40 C.F.R. § 122.23. An animal feeding operation is a "confined animal feeding operation" or a "CAFO" if it manages over 1,000 animal units[6] (e.g. 2,500 hogs) or more than 300 animal units (e.g. 750 hogs) and discharges into navigable waters. 40 C.F. R. Pt. 122, App. B. The Act also defines a "concentrated animal feeding operation" ("CAFO") as a point source. 33 U.S.C § 1362(14). The Act prohibits the discharge of pollutants from a "point source" into the waters of the United States except in compliance with conditions of an NPDES permit. See 33 U.S.C. § 1311(a) (containing the general prohibition against the discharge of pollutants: "the discharge of any pollutant by any person shall be unlawful"). The Act also authorizes states to adopt standards and requirement that are more stringent than EPA's standards and effluent limitations. 40 C.F.R. § 122.1(f).

Current Standards in Georgia

In Georgia, CAFOs are regulated pursuant to a Memorandum of Understanding ("MOU") entered into between EPD, the U.S. Department of Agriculture Soil Conservation Service, and the Georgia Soil and Water Conservation Commission. Pursuant to the MOU, a Land Application System ("LAS") permit must be obtained from EPD for facilities that manage more than 1,000 animal units (e.g. 2,500 hogs). MOU, Large Feedlot Operations with Land Application ¶3. These facilities are subject to specific monitoring, record-keeping, reporting and buffer requirements. Id. For instance, EPD requires a minimum buffer zone of 150 feet between lagoons/sprayfields and property lines. Id. at ¶ 13. It also requires a minimum buffer zone of 300 feet between the edge of a "wetted field" habitable structures. Id. The facility is also required to install at least one up-gradient and two down-gradient groundwater monitoring wells for each drainage basin

[2] Parker, David, et al., *Seepage from Animal Waste Lagoons and Storage Ponds – Regulatory and Research Review*; Hegg, R.O., et al., *The Effects of Groundwater From Seepage of Livestock Manure Lagoons*; Whittle, Daniel, *The Regulation of Animal Waste in North Carolina.*

[3] Memorandum, A. Dennis McBride, N.C. State Health Director from Kenneth Rudo, Ph.D., Toxicologist (on file with author).

[4] *The Need To Regulate Poultry: What Science and the Experts Say*, Fact Sheet Prepared by the Environmental Interest Organization, Virginia (on file with author).

[5] Id.

[6] The term "animal unit" is a unit of measurement based on the amount of waste generated by a particular animal.

intersected by the spray irrigation field. Id. ¶ 14. In addition, the MOU requires that the permit contain specific requirements for monitoring pond effluent and groundwater monitoring wells. Monitoring usually consists of quarterly monitoring of pond effluent for BOD_5, TSS, TKN, NH_3, NO_3 and pH, and quarterly monitoring of the wells for specific conductivity, NO_3, pH and depth to groundwater. Id. ¶15. Finally, EPD requires a 30-day public comment period prior to issuing a permit. Id. ¶5. EPD is not involved in the "review, approval or permitting" of facilities with less than 1,000 animal units. Id. Small Feedlot Operations ¶ 3. Moreover, poultry operations that utilize a dry litter system are not required to obtain a permit under the MOU.

Animal Feeding Operations in Georgia

Despite the threats posed by animal feeding operations across the nation, little information exists regarding the number and size of facilities operating in Georgia. Nevertheless, from available information it appears that the typical operation maintains between 300 animal units and 1,000 animal units (e.g. between 750 and 2,500 hogs). Only a handful of operations that manage over 1,000 animal units have been identified (according to EPD, only 10 diary facilities and 3 swine facilities have been permitted under the MOU). In addition to dairy and swine facilities, threats from poultry operations are of particular concern in Georgia; according to recent statistics released by the USDA National Agricultural Statistics Service, Georgia led the nation in broiler production in 1997 with over 1 billion grown.

The Stakeholders Process

In June 1998, EPD convened a Stakeholders Committee comprised of over ninety representatives from the environmental community, agribusiness, academia and state and federal agencies. Members of the stakeholders committee dedicated significant resources to the stakeholders process. In addition to hours spent in committee meetings, representatives spent a substantial amount of time traveling to and from coastal areas for meetings held in Atlanta, Athens and Macon. Moreover, as the meetings were held during regular working hours, several individuals had to take time off from work in order to attend the meetings. After hours of negotiations, the stake-holders committee developed extensive recommend-ations which were submitted to EPD on October 27, 1998.

EPD's Proposed Rule

Approximately two months after the conclusion of the stakeholders process, on December 23, 1998, EPD gave notice of its proposed amendments to Georgia's Rules for Water Quality Control, Chapter 391-3-6 ("proposed rule"). The proposed rule consists of the addition of Rule .20 "Animal Feeding Operation Permit Requirements." Pursuant to this rule, all existing facilities that manage greater than 1,000 animal units will be required to obtain a general Land Application System ("LAS") permit, and all new and expanding facilities will be required to obtain an individual LAS permit. Proposed Rule, § 391-3-6.20(5, 6). EPD may – at its discretion – require waste storage lagoons, spray irrigation fields, buffer zones, ground water monitoring wells, record keeping, and periodic reporting of those facilities with individual permits. Id. § (5)(d). Facilities with general permits may also be required to have waste storage lagoons, disposal systems, and record keeping – again at EPD's discretion. Id. § (6)(c). All facilities over 1,000 animal units must have a certified operator within 12 months of notification by EPD and must have land disposal or land treatment systems designed in accordance with the guidelines established by the Natural Resources Conservation Service ("NRCS"). Id. §§ (5) (e, f), (6) (d, e). Operations with under 1,000 animal units are not required to obtain a permit unless "unacceptable environmental conditions exist as determined by the Division." Id. § (3)(b). Poultry operations utilizing a dry litter system will remain unregulated.

EPD'S Proposed Rule Provides Less Oversight Than The Stakeholders' Recommendations. EPD's proposal will provide significantly less regulatory oversight than agreed upon by the Stakeholders Committee. The stakeholders committee agreed that facilities between 300 and 1,000 animal units (e.g. between 750 and 2,500 hogs) would be subjected to certain regulatory requirements. According to the final report submitted to EPD by the Stakeholders Committee:

> [t]he Producers support requirements for facilities over 300 animal units to implement an approved nutrient management plan and to operate under the management of a trained operator.[7]

[7] The environmental representatives likewise agreed to these requirements, but recommended that the requirements be imposed pursuant to general permitting. In fact, throughout the stakeholders process, agribusiness and environmental

Size Subcommittee Report, p. 3. The committee also agreed that all operations over 300 animal units would be required to develop a closure plan, an emergency response plan, implement record-keeping, and demonstrate financial responsibility for the closure of animal waste treatment or storage facilities (e.g. bonding). Final Report of the Design and Administration Subcommittee, 1998 ("Design Subcommittee Report"). They also agreed that these operations would be required to maintain a 100-foot vegetative buffer between application fields and stream or wetlands for wet and dry manure systems. Final Report of Location Restrictions Subcommittee ("Location Subcommittee Report").[8] Agribusiness and environmental representatives agreed that these requirements were reasonable given the goals of developing a system that "farmers can manage" and that simultaneously protects the environment. Size Subcommittee Report, p.1. Nevertheless, the proposed rule does not incorporate any of these recommendations. On the contrary, the proposed rule leaves the medium-sized facilities, the majority of facilities in Georgia, virtually unregulated.

Moreover, the agribusiness and environmental representatives were also able to agree with little controversy that all facilities over 1,000 animal units would receive individual permits. As stated in the report submitted to EPD:

"Both parties agree that an individual permit should be required of *all facilities* that:

- manage more than 1,000 animal units,
- [have] between 301 and 1,000 animal units and may or does discharge by one of the methods covered by regulations at 40 CFR 122, Appendix B(b), or has been designated a CAFO by the permitting authority on a case-by-case basis.

These permits should contain site specific requirements. For example, more comprehensive monitoring might be required, or a hydrology study if the operation was to be a very large one. Moreover, these permits require public notice for each site, and a public meeting if "enough" comments and concerns are expressed.

Size Subcommittee Report, p. 4 (emphasis added). Yet, in this area as well, EPD proposes regulations that are less stringent than the consensus reached by agribusiness and environmental representatives. Instead of requiring individual permitting of *all* facilities over 1,000 animal units, EPD will impose this requirement only on new and expanding facilities.

EPD's approach – regulation of existing operations by general permit – omits certain agreed-upon requirements and extends far beyond any agreements made regarding grandfathering for existing facilities. More specifically, agribusiness and environmental representatives agreed that existing facilities would not be required to physically move existing facilities in order comply with setback requirements. Size Subcommittee Report, p. 6. Nevertheless, it was agreed that all facilities would be required to meet other regulatory requirements within a reasonable time period, including the requirement that facilities over 1,000 animal units obtain an individual permit. Id. Despite this agreement, EPD has chosen to issue only general permits to existing facilities and provide exceptions to agreed-upon requirements such as monitoring. EPD will provide these exceptions despite unequivocal "[c]onsensus to monitor for lagoon seepage [on] all operations with greater than 1000 animal units . . . on a quarterly basis." Final Report of the Nutrient Management and Monitoring Subcommittee ("Nutrient Subcommittee Report").

In addition, the proposed regulations fail to consider phosphorous limitations despite the that agreement was reached that there should be an "increased focus on phosphorus" and that phosphorous should "be a part of any monitoring program."[9] Nutrient Subcommittee Report. Moreover, EPD made no indication that it would consider other agreements reached by the committee including annual inspections for facilities over 1,000 animal units, incentives for implementation of new technologies, bonding requirements, emergency response plans and closure plans. See Design Subcommittee Report. Stakeholders committee members also spent considerable time identifying areas that should be subjected to special permitting requirements (e.g. recharge areas, deep sands and wet

representatives agreed that permitting should begin at 300 AU. Agribusiness representatives, however, retreated from this position during the eleventh hour of the negotiations.

[8] The agreements reached with respect to facilities between 300 and 1,000 AU also apply to those facilities over 1,000 AU.

[9] At a DNR board meeting held on December 2, 1998, Harold Reheis (Director) and Allan Hallum (Chief, Water Protection Division) specifically stated that phosphorous limitations would not be considered as part of EPD's regulatory program with respect to CAFOs.

soils, sites in close proximity to endangered species habitat, scenic rivers, and impaired and black water streams). Location Subcommittee Report. Again, however, EPD chose to ignore this recommendation and does not plan to impose special permitting requirements for facilities seeking to locate in these environmentally sensitive areas.[10]

EPD'S Proposal Provides Less Regulatory Oversight Than Current Standards. Not only does the approach presented by EPD provide less stringent standards than recommended by the stakeholders committee, it provides less oversight than offered by the MOU. For instance, the MOU contains specific requirements with respect to monitoring and setbacks. These requirements were not specifically included in the proposed rules; they were replaced with provisions which leave the imposition of such requirements to the discretion of EPD. Moreover, the only difference between the current practice and the proposed regulations is the addition of a training requirement for operators of facilities over 1,000. Ironically, this issue provided little controversy during the stakeholders process.[11]

RECOMMENDATIONS

EPD should recognize the compromises reached through the stakeholders process by incorporating those recommendations into the proposed rules. For instance, the rule should be amended to reflect the consensus that facilities between 300 and 1,000 animal units be required to implement an approved nutrient management plan, operate under the management of a trained operator, develop a closure plan, an emergency response plan, implement record-keeping, establish buffers along streams, and demonstrate financial responsibility for the closure of animal waste treatment or storage facilities (e.g. bonding).[12] Moreover, *all* facilities over 1,000 animal units should be required to obtain an individual permit. EPD should also include requirements regarding phosphorous limitations, record-keeping, annual inspections, incentives for implementation of new technologies, bonding requirements, emergency response plans and closure plans, and special permitting requirements for environmentally sensitive areas, all of which were agreed upon during the stakeholders process. The Rules should also include specific requirements for monitoring, buffers, setbacks, record-keeping, that are consistent with if not more stringent than the approach taken by other states in the Southeast, and should include permitting requirements for poultry operations utilizing dry litter systems that are equivalent to the requirements imposed on other animal feeding operations.

[10] EPD has indicated that it may include this information in "guidelines" that are not part of the regulatory requirements. Guidelines are not binding and do not offer the opportunity for public input. More significantly, however, the stakeholders agreed that these areas would be protected through special permitting standards, not through advisory guidelines.

[11] EPD maintains that, under the MOU, certain facilities over 1,000 animal units are exempt from permitting requirements. This exemption is not outlined in the MOU and, in fact, is contrary to federal requirements that all operations over 1,000 animal units be permitted. See 33 U.S.C. § 1342(a) (requiring all "point sources" of pollutants to obtain an NPDES permit); 40 C.F.R. § 122.23(a) (defining confined animal feeding operations as "point sources" subject to the NPDES permit program).

[12] These requirements should be imposed pursuant to a general permitting requirement See fn.6.